RF Exposure Evaluation Report

Product	:	SenseCAP Radar Rainfall All-in-One Weather Station
Trade mark	:	seeed studio
Model/Type reference	:	S700-A, S700-C, S100
Serial Number	:	N/A
Report Number	:	EED32R81216002
FCC ID	:	Z4T-WEATHER
Date of Issue	:	Aug. 15, 2025
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 1.1310 47 CFR Part 2.1091 47 CFR Part 2.1093 KDB 447498 D04 Interim General RF Exposure Guidance v01
Test result	:	PASS

Prepared for:

Seeed Technology Co.,Ltd
9F,Building G3, TCL International E City,Zhongshanyuan Road,Nanshan,Shenzhen, China

Prepared by:

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2 General Information

2.1 Client Information

Applicant:	Seeed Technology Co.,Ltd
Address of Applicant:	9F,Building G3, TCL International E City,Zhongshanyuan Road,Nanshan,Shenzhen, China
Manufacturer:	Seeed Technology Co.,Ltd
Address of Manufacturer:	9F,Building G3, TCL International E City,Zhongshanyuan Road,Nanshan,Shenzhen, China
Factory:	Shenzhen Xinxian Technology Co.,Limited.
Address of Factory:	F5, Building B17, Hengfeng Industrial City,No. 739 Zhoushi Rd, Baoan District, Shenzhen,Guangdong, P.R.C.

2.2 General Description of EUT

Product Name:	SenseCAP Radar Rainfall All-in-One Weather Station
Model No.:	S700-A, S700-C, S100
Test model No.:	S700-A
Trade Mark:	seeed studio

2.3 Product Specification subjective to this standard

Frequency Range:	60-64GHz
Modulation Type:	FMCW
Test Power Grade:	Default
Test Software of EUT:	N/A
Antenna Type:	PCB Antenna
Antenna Gain:	20 dBi
Power Supply:	DC 12-24V, 0.55W
Sample Received Date:	Jul. 17, 2025
Sample tested Date:	Jul. 17, 2025 to Aug. 12, 2025

Remark:
Model No.: S700-A, S700-C, S100
All models have been tested. The three models use the same technical solution. Their electrical circuit design, layout, components used and internal wiring are identical.
The difference is that they are equipped with different sensors. Here is details:

S700-A：Temperature sensor, Humidity sensor, Pressure sensor, Wind speed sensor, Wind direction sensor, Radar Rainfall sensor, Light sensor

S700-C：Temperature sensor, Humidity sensor, Pressure sensor, Wind speed sensor, Wind direction sensor, Radar Rainfall sensor, solar radiation sensor

S100：Radar Rainfall sensor

2.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

2.5 Deviation from Standards

None.

2.6 Abnormalities from Standard Conditions

None.

2.7 Other Information Requested by the Customer

None.

3 SAR Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).
This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\text{ cm}}(d/20\text{ cm})^{x} & d \le 20\text{ cm} \\ ERP_{20\text{ cm}} & 20\text{ cm} < d \le 40\text{ cm} \end{cases}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\text{ cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\text{ cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\text{ GHz} \le f < 1.5\text{ GHz} \\ 3060 & 1.5\text{ GHz} \le f \le 6\text{ GHz} \end{cases} \qquad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

Table 1 to § 1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	*(100)	≤6
3.0–30	1842/f	4.89/f	*($900/f^2$)	<6
30–300	61.4	0.163	1.0	<6
300–1,500			f/300	<6
1,500–100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	<30
1.34–30	824/f	2.19/f	*($180/f^2$)	<30
30–300	27.5	0.073	0.2	<30
300–1,500			f/1500	<30
1,500–100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

3.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.1.3 EUT RF Exposure Evaluation

$S = PG / 4\pi R^2$
where: S = Power density
P = Power input to the antenna
G = Antenna gain
R = Distance to the center of radiation of the antenna
PG = Output Power including antenna gain

For Stand alone:

60GHz:

Frequency	EIRP(PG)	EIRP	Distance	Test Power Density	Power Density Limit
(GHz)	(dBm)	(mW)	(cm)	(mW/cm^2)	(mW/cm^2)
60	24.33	271.019	20	0.0539	1

Note：
④EIRP(mW) = 10^(ERP (dBm)/10);
⑤The estimation distance is 20cm;
⑥The test data please refer to the report of EED32R81216001 only the worst case data was recorded in the report.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;

2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;

3. The result(s) shown in this report refer(s) only to the sample(s) tested;

4. Unless otherwise stated,the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;

5. Without written approval of CTI, this report can't be reproduced except in full;

*** End of Report ***